

SEQUENCE LISTING

<110> Conrad, Bernard
Mach, Bernard

<120> Methods for Diagnosis and Therapy of Autoimmune Disease, Such As Insulin Dependent Diabetes Mellitus, Involving Retroviral Superantigens

<130> 23132-502

<140> 09/490,700
<141> 2000-01-24

<150> PCT/EP98/04926
<151> 1998-07-22

<150> 97112482.1
<151> 1997-07-22

<150> 97401773.3
<151> 1997-07-23

<160> 49

<170> PatentIn Ver. 2.1

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<400> 1
tttttgagtc cccttagtat ttatt

25

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<211> 20
<212> DNA
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<220>
<223> Description of Artificial Sequence: primer

<400> 2
atccaaacaac catgatggag

20

<210> 3
<211> 21
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<220>
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<400> 3
tctcgtaagg tgcaa atgaa g

21

B

<210> 4
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<400> 4
gtaaaaggatc aagtgctgtg c 21

<210> 5
<211> 22
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<220>
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<400> 5
ctttacaaag cagtattgct gc 22

<210> 6
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<212> DNA
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<220>
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<400> 6
aacactgcga aaggccgcag g 21

<210> 7
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<220>
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<400> 7
aggatttgc caaggtttct cc 22

C

<210> 8
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<220>
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<400> 8
yaaatggmgw ayytaacag act 23

<210> 9
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<220>
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yaaatggmgw ayygtaactg act 23

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<220>
<223> Description of Artificial Sequence: primer

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cgtctagagc cytctccggc yatgatcccg 30

<210> 11
<211> 30
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

<400> 11
cgtctagagc cytctccggc yatgatccca 30

<210> 12
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 12
tgcgccagca atgttatccat g 21

<210> 13
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 13
gggtggcagt gcatcatagg t 21

~~S~~ C1

<210> 14
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 14
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<210> 15
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 15
gacagcaagc cagtgataag ca 22

<210> 16
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 16
ggaacaggga ctctctgca 19

<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 17
gggaagggtt aggaagtgtg 20

<210> 18
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 18
ggtgtttctc ctgagggag 19

<210> 19

C

<211> 21
<212> DNA
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<220>
<223> Description of Artificial Sequence: primer

<400> 19
gaagaatggc caacagaagg t 21

<210> 20
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 20
gggaaacaag gagtggtgagt 20

<210> 21
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer'

<400> 21
catgtatatg cggccgctgc gccagcaatg tatccatgg 39

<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer'

<400> 22
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C

<210> 23
<211> 22
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<220>
<223> Description of Artificial Sequence: primer'

<400> 23
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<210> 24
<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer'

<400> 24
atactaaggg gactcagagg c

21

<210> 25
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer'

<400> 25
cagaggctgg tgggatcctc catatgc

27

<210> 26
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 26
tttttgagtc cccttagtat ttatt

25

<210> 27
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 27
aggatttgtc caaggttctt cc

22

<210> 28
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 28
ctttacaaag cagtattgct gc

22

C1
<210> 29
<211> 21
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 29
gtaaaaggatc aagtgctgtg c 21

<210> 30

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 30
gactaagctt aagaacccat cagagatgc 29

<210> 31

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 31
agactggatc cgtaaagtgc ctatcgacag c 31

<210> 32

<211> 208

<212> DNA

<213> retroviral provirus

<400> 32
catctccctc aggagaaaaca cccacgaatg atcaataaaat actaaggggga ctcagaggct 60
ggtgtggatcc tccatatgtc gaacgttgggt tcccggggcc cccttatttc tttctctata 120
ctttgtctct gtgtcttttt cttttccaag tcttcttcat ttgcacacctt caagaaaacat 180
ctccatcatg gttgttggat gggggcaa 208

<210> 33

<211> 1060

<212> DNA

<213> retroviral provirus

<400> 33
ctgcagttt acccaaacagc tccgaagaga cagtgcacatc gagaacgggc catgtatgc 60
atggcggtt tgtcgaaaag aaaagggggaa aatgtggggaa aaagcaagag agatgagatt 120
gttactgtgt ctgtatagaa agaagtagac ataggagact ccattttgtt ctgtactaaag 180
aaaaattctt ctgccttgag atgctgttac tctatgcaccc taccccaac cccgtgtct 240
ctgaaacatg tgccgtgtca aactcagggt taaatggatt aagggtgggtg caagatgtgc 300
tttgttaaac agatgcttga aggcacgtc ctcattaaaga gtcattcacca ctccctaatac 360
tcaagttacc accgacacaa acactgcgaa aggccgcagg gacctctgcc taggaaagcc 420
aggtattgtc caaggtttct ccccatgtga tagtctgaaa tatggcctcg tgggaaggaa 480
aagacctgac catcccccaag accaacaccc gtaaagggtc tgtgtgagg aggatttagta 540
taagaggaaa gcatgcctct tgcagttgag agaagaggaa gacatctgtc tcctgccc 600

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ccccctgggca atggaaatgtc tcagttataaa acccgattga acattccatc tactgagata 660
gggaaaaact gccttagggc tggagggtggg acatgtgggc agcaatactg ctttgtaaag 720
cattgagatg tttatgtgtt tgtatatactt aaagcacagc acttgatctt ttaccttgtc 780
tatgtatgcaa acacctttgt tcacgtgtt gtctgtgtc cctctccccca ctattgtctt 840
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gactcagagg ctggtgggat cctccatatg ctgaacgttg gttcccgggg ccccttatt 960
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<210> 34

<211> 1754

<212> DNA

<213> Human endogenous retrovirus

<400> 34

atggtaaacac	cagtacatg	gatggataat	cctatagaag	tatatgttaa	tgatagtgta	60
tgggtacctg	gccccacaga	tgatcgctgc	cctgccaac	ctgaggaaga	aggatgtat	120
ataaatattt	ccattgggt	tcattatct	cctatttgc	tagggagagc	accaggatgt	180
ttaatgcctg	cagtccaaaa	ttgggtggta	gaagtaccta	ctgtcagtcc	taacagtaga	240
ttcaacttatc	acatggtaag	cgggatgtca	ctcaggccac	gggtaaatta	tttacaagac	300
ttttcttatac	aaagatcatt	aaaatttaga	cctaaaggga	aaactgccc	caaggaaatt	360
cctaaaggat	caaagaatac	agaagttta	gttgggaag	aatgtgtggc	caatagtgt	420
gtgatattac	aaaacaatga	attcggact	attatagatt	aggcacctcg	aggtcaatcc	480
taccacaatt	gctcaggaca	aactcagtcg	tgtccaaagt	cacaagttag	tccagctgtc	540
gatagcgact	taacagaaaag	tctagacaaa	cataagcata	aaaaattaca	gtctttctac	600
cttgggaat	ggaaagaaaa	aggaatctct	accccaagac	aaaaaataat	aagtccctgtt	660
tctggctctg	aacatccaga	attgtggagg	cttactgtgg	cctcacacca	cattagaatt	720
tggctggaa	atcaaacttt	agaaaacaaga	tatcgtaagc	cattttatac	tatcgaccta	780
aattccattc	taacggttcc	tttacaaaagt	tgccctaaagc	cccccttat	gttagttgt	840
ggaaatata	ttattaaacc	agcctccaa	actataacct	gtgaaaattt	tagattgtt	900
acttgcattg	attcaacttt	taattggcag	caccgtattc	tgctggtag	agcaagagaaa	960
ggcatgtgga	tccctgtgtc	cacggaccga	ccgtgggagg	cctcgccatc	catccatatt	1020
ttgactgaaa	tattaaaagg	cgttttaat	agatccaaaa	gattcatttt	tacttttaatt	1080
gcagtgatta	tggattaat	tgca	gtacggctg	ctgtggcagg	ggttgcattg	1140
cactcttctg	ttcagtcagt	aaacttttgtt	aattattggc	aaaagaattc	tacaagat	1200
tggatttcac	aatcttagtat	tgatcaaaaa	ttggcaagtc	aaattaaatga	tcttagacaa	1260
actgtcattt	ggatgggaga	caggcttgac	ttagaacatc	atttccagtt	acagtgtgac	1320
tggataacgt	cagattttgc	tattacaccc	caaatttata	atgagtcgt	gcatcactgg	1380
gacatggtta	gacgccatct	acagggaaaga	gaagataatc	tcactttaga	catttccaaa	1440
ttaaaaagaac	aaattttgc	agcatcaaaa	gcccattaa	atttggtgcc	aggaactgag	1500
gcaattgcag	gagttgtca	tggcctcgca	aatcttaacc	ctgtcacttg	gattaagacc	1560
atcagaagta	ctatgattat	aaatctcata	ttaatcgttg	tgtgcctgtt	ttgtctgtt	1620
ttagtctgca	ggtgtacccc	aacagctccg	aaaaaaaacag	tgacatcgag	aacggccat	1680
gaatgacaaa	ggcggtttt	gttccaaaaa	aaaaaggggg	aaattttggg	aaaaacccaa	1740
aaaatgaaaa	tgtt					1754

<210> 35

<211> 520

<212> DNA

<213> Human endogenous retrovirus

<400> 35

acatttgaag	ttctacaatg	aaccatcg	agatgc	aaaagcgc	ccacgg	60
ggtaacacca	gtcacatgga	tggataatcc	tatagaaga	tatgttaatg	atagtgtatg	120
ggtacctggc	cccacagatg	atcgctgccc	tgccaaac	gaggaaga	ggatgtatgat	180
aaatatttcc	atgggtatc	attatcctcc	tatttgcc	ggqagagc	caggatgtt	240
aatgcctgca	gtccaaaatt	ggtttgtaga	agtaccta	gtcagtc	acagtagatt	300
cacttatcac	atggtaagcg	ggatgtcact	caggccac	gtaaattt	tacaagactt	360
ttcttatcaa	agatcattaa	aatttagacc	taaagggaaa	acttgcccc	agqaaatcc	420

taaaggatca aagaatacag aagtttagt ttggaaagaa tgtgtggcca atagtgtggt 480
gatattacaa aacaatgaat tcggaactat tatagattag 520

<210> 36

<211> 153

<212> PRT

<213> Human endogenous retrovirus

<400> 36

Met Val Thr Pro Val Thr Trp Met Asp Asn Pro Ile Glu Val Tyr Val
1 5 10 15

Asn Asp Ser Val Trp Val Pro Gly Pro Thr Asp Asp Arg Cys Pro Ala
20 25 30

Lys Pro Glu Glu Gly Met Met Ile Asn Ile Ser Ile Gly Tyr His
35 40 45

Tyr Pro Pro Ile Cys Leu Gly Arg Ala Pro Gly Cys Leu Met Pro Ala
50 55 60

Val Gln Asn Trp Leu Val Glu Val Pro Thr Val Ser Pro Asn Ser Arg
65 70 75 80

Phe Thr Tyr His Met Val Ser Gly Met Ser Leu Arg Pro Arg Val Asn
85 90 95

Tyr Leu Gln Asp Phe Ser Tyr Gln Arg Ser Leu Lys Phe Arg Pro Lys
100 105 110

Gly Lys Thr Cys Pro Lys Glu Ile Pro Lys Gly Ser Lys Asn Thr Glu
115 120 125

Val Leu Val Trp Glu Glu Cys Val Ala Asn Ser Val Val Ile Leu Gln
130 135 140

Asn Asn Glu Phe Gly Thr Ile Ile Asp
145 150

<210> 37

<211> 603

<212> DNA

<213> Human endogenous retrovirus

<400> 37

acatttgaag ttctacaatg aaccatcg agatgcaaag aaaagcgccct ccacggagat 60
ggtaacacca gtcacatgga tggataatcc tatagaagta tatgttaatg atagtgtatg 120
ggtacctggc cccacagatg atcgctgccc tgccaaacct gaggaagaag ggatgtatgat 180
aaatatttcc attgggtatc attatcctcc tatttgccctt gggagagcac caggatgttt 240
aatgcctgca gtccaaaatt ggttggtaga agtacctact gtcagtccta acagtagatt 300
cacttatcac atggtaagcg ggtatgtact caggccacgg gtaaattatt tacaagactt 360
ttcttatcaa agatcattaa aatttagacc taaaaggaaa acttgccccca aggaaattcc 420
taaaggatca aagaatacag aagtttagt ttggaaagaa tgtgtggcca atagtgtggt 480
gatattacaa aacaatgaat tcggaactat tatagattag gcaccccgag gtcaattcta 540
ccacaattgc tcaggacaaa ctcagtcgtg tccaaagtgca caagtgagtc cagctgtcga 600
tag 603

<210> 38

<211> 561
<212> PRT
<213> Human endogenous retrovirus

<220>
<221> VARIANT
<222> (154)
<223> Wherein Xaa at position 154 is "Z" as described in the figure legend for FIG. 7F.

<400> 38

Met Val Thr Pro Val Thr Trp Met Asp Asn Pro Ile Glu Val Tyr Val
1 5 10 15

Asn Asp Ser Val Trp Val Pro Gly Pro Thr Asp Asp Arg Cys Pro Ala
20 25 30

Lys Pro Glu Glu Glu Gly Met Met Ile Asn Ile Ser Ile Gly Tyr His
35 40 45

Tyr Pro Pro Ile Cys Leu Gly Arg Ala Pro Gly Cys Leu Met Pro Ala
50 55 60

Val Gln Asn Trp Leu Val Glu Val Pro Thr Val Ser Pro Asn Ser Arg
65 70 75 80

Phe Thr Tyr His Met Val Ser Gly Met Ser Leu Arg Pro Arg Val Asn
85 90 95

Tyr Leu Gln Asp Phe Ser Tyr Gln Arg Ser Leu Lys Phe Arg Pro Lys
100 105 110

Gly Lys Thr Cys Pro Lys Glu Ile Pro Lys Gly Ser Lys Asn Thr Glu
115 120 125

Val Leu Val Trp Glu Glu Cys Val Ala Asn Ser Val Val Ile Leu Gln
130 135 140

Asn Asn Glu Phe Gly Thr Ile Ile Asp Xaa Ala Pro Arg Gly Gln Phe
145 150 155 160

Tyr His Asn Cys Ser Gly Gln Thr Gln Ser Cys Pro Ser Ala Gln Val
165 170 175

Ser Pro Ala Val Asp Ser Asp Leu Thr Glu Ser Leu Asp Lys His Lys
180 185 190

His Lys Lys Leu Gln Ser Phe Tyr Leu Trp Glu Trp Glu Glu Lys Gly
195 200 205

Ile Ser Thr Pro Arg Pro Lys Ile Ile Ser Pro Val Ser Gly Pro Glu
210 215 220

His Pro Glu Leu Trp Arg Leu Thr Val Ala Ser His His Ile Arg Ile
225 230 235 240

Trp Ser Gly Asn Gln Thr Leu Glu Thr Arg Tyr Arg Lys Pro Phe Tyr
245 250 255

Thr Ile Asp Leu Asn Ser Ile Leu Thr Val Pro Leu Gln Ser Cys Leu
260 265 270

Lys Pro Pro Tyr Met Leu Val Val Gly Asn Ile Val Ile Lys Pro Ala
275 280 285

Ser Gln Thr Ile Thr Cys Glu Asn Cys Arg Leu Phe Thr Cys Ile Asp
290 295 300

Ser Thr Phe Asn Trp Gln His Arg Ile Leu Leu Val Arg Ala Arg Glu
305 310 315 320

Gly Met Trp Ile Pro Val Ser Thr Asp Arg Pro Trp Glu Ala Ser Pro
325 330 335

Ser Ile His Ile Leu Thr Glu Ile Leu Lys Gly Val Leu Asn Arg Ser
340 345 350

Lys Arg Phe Ile Phe Thr Leu Ile Ala Val Ile Met Gly Leu Ile Ala
355 360 365

Val Thr Ala Thr Ala Ala Val Ala Gly Val Ala Leu His Ser Ser Val
370 375 380

Gln Ser Val Asn Phe Val Asn Tyr Trp Gln Lys Asn Ser Thr Arg Leu
385 390 395 400

Trp Asn Ser Gln Ser Ser Ile Asp Gln Lys Leu Ala Ser Gln Ile Asn
405 410 415

Asp Leu Arg Gln Thr Val Ile Trp Met Gly Asp Arg Leu Asp Leu Glu
420 425 430

His His Phe Gln Leu Gln Cys Asp Trp Asn Thr Ser Asp Phe Cys Ile
435 440 445

Thr Pro Gln Ile Tyr Asn Glu Ser Glu His His Trp Asp Met Val Arg
450 455 460

Arg His Leu Gln Gly Arg Glu Asp Asn Leu Thr Leu Asp Ile Ser Lys
465 470 475 480

Leu Lys Glu Gln Ile Phe Glu Ala Ser Lys Ala His Leu Asn Leu Val
485 490 495

Pro Gly Thr Glu Ala Ile Ala Gly Val Ala Asp Gly Leu Ala Asn Leu
500 505 510

Asn Pro Val Thr Trp Ile Lys Thr Ile Arg Ser Thr Met Ile Ile Asn
515 520 525

Leu Ile Leu Ile Val Val Cys Leu Phe Cys Leu Leu Leu Val Cys Arg
530 535 540

C
bt
Cys Thr Pro Thr Ala Pro Lys Lys Thr Val Thr Ser Arg Thr Gly His
545 550 555 560

Glu

<210> 39
<211> 604

<212> DNA

<213> Human endogenous retrovirus

<400> 39

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gttaacacca gtcacatgga tggataatcc tatagaagta tatgttaatg atagtgtatg 120
ggtacctggc cccacagatg atcgctgccc tgccaaacctt gaggagaag ggatgtatgat 180
aaatatttcc attgggtatc attatcctcc tatttgcccta gggagagcac caggatgttt 240
aatgcctgca gtccaaaattt ggttggtaga agtacctact gtcagtccta acagtagatt 300
cacttatcac atggtaagcg ggtatgtact caggccacgg gtaaatttattt tacaagactt 360
ttcttatcaa agatcattaa aatttagacc taaagggaaa acttgccccca aggaaattcc 420
taaaggatca aagaatacag aagttttagt ttgggaagaa tgtgtggcca atagtgtggt 480
gatattacaa aacaatgaat tcggaactat tatagattt ggcacctcga ggtcaattct 540
accacaattt ctcaggacaa actcagtcgt gtccaaagtgc acaagtgagt ccagctgtcg 600
atag 604

<210> 40

<211> 181

<212> PRT

<213> Human endogenous retrovirus

<400> 40

Met Val Thr Pro Val Thr Trp Met Asp Asn Pro Ile Glu Val Tyr Val
1 5 10 15

Asn Asp Ser Val Trp Val Pro Gly Pro Thr Asp Asp Arg Cys Pro Ala
20 25 30

Lys Pro Glu Glu Glu Gly Met Met Ile Asn Ile Ser Ile Gly Tyr His
35 40 45

Tyr Pro Pro Ile Cys Leu Gly Arg Ala Pro Gly Cys Leu Met Pro Ala
50 55 60

Val Gln Asn Trp Leu Val Glu Val Pro Thr Val Ser Pro Asn Ser Arg
65 70 75 80

Phe Thr Tyr His Met Val Ser Gly Met Ser Leu Arg Pro Arg Val Asn
85 90 95

Tyr Leu Gln Asp Phe Ser Tyr Gln Arg Ser Leu Lys Phe Arg Pro Lys
100 105 110

Gly Lys Thr Cys Pro Lys Glu Ile Pro Lys Gly Ser Lys Asn Thr Glu
115 120 125

Val Leu Val Trp Glu Glu Cys Val Ala Asn Ser Val Val Ile Leu Gln
130 135 140

Asn Asn Glu Phe Gly Thr Ile Ile Asp Leu Gly Thr Ser Arg Ser Ile
145 150 155 160

Leu Pro Gln Leu Leu Arg Thr Asn Ser Val Val Ser Lys Cys Thr Ser
165 170 175

Glu Ser Ser Cys Arg
180

<210> 41

<211> 182

<212> PRT

<213> Human endogenous retrovirus

<400> 41

Phe Thr Ile Pro Leu Ala Glu Gln Asp Cys Glu Lys Phe Ala Phe Thr
1 5 10 15

Ile Pro Ala Ile Asn Asn Lys Glu Pro Ala Thr Arg Phe Gln Trp Lys
20 25 30

Val Leu Pro Gln Gly Met Leu Asn Ser Pro Thr Ile Cys Gln Thr Phe
35 40 45

Val Gly Arg Ala Leu Gln Pro Val Arg Asp Lys Phe Ser Asp Cys Tyr
50 55 60

Ile Ile His Tyr Phe Asp Asp Ile Leu Cys Ala Ala Glu Thr Lys Asp
65 70 75 80

Lys Leu Ile Asp Cys Tyr Thr Phe Leu Pro Ala Glu Val Ala Asn Ala
85 90 95

Gly Leu Ala Ile Ala Ser Asp Lys Ile Gln Thr Ser Thr Pro Phe His
100 105 110

Tyr Leu Gly Met Gln Ile Glu Asn Arg Lys Ile Lys Pro Gln Lys Ile
115 120 125

Glu Ile Arg Lys Asp Thr Leu Lys Thr Leu Asn Asp Phe Gln Lys Leu
130 135 140

Leu Gly Asp Ile Asn Trp Ile Arg Pro Thr Leu Gly Ile Pro Thr Tyr
145 150 155 160

Ala Met Ser Asn Leu Phe Ser Ile Leu Arg Gly Asp Ser Asp Leu Asn
165 170 175

Ser Lys Arg Met Leu Thr
180

<210> 42

<211> 250

<212> DNA

<213> Human endogenous retrovirus

<400> 42

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agcctccatt ttgcaactgg tcccctggct cccacctta tgaactctta acctgtctt 180
tctcattcct ttgtcaccat tggacttgg gtaccctacg ggtgggttg aggctgtcac 240
cgcacattaa 250

b1 <210> 43

<211> 203

<212> DNA

<213> Human endogenous retrovirus

<400> 43

gttttagttaa tctataatct atagagacaa tgcttatcac tggcttgctg tcaataaata 60
tgtgggtaaa tctctgttca agactctcag ctttgaagct gtgagacccc tgatttccca 120
ctccacacct ctatatttcgt gtgtgtgt cttaattcc tccagtgttg ctgggtttagg 180
gtctccctcgagctgtcg tgc 203

<210> 44

<211> 283

<212> DNA

<213> Human endogenous retrovirus

<400> 44

aactcaagctg ctgcacagtg gtcgagcctc cagagctcat gccattgcag tggtcagac 60
ctggccctcc tcttcctgca tagaacctgg attcaatctg taagggtggg agtgcagcag 120
cagagaactc tggccttgca gagagtcct gttccactt cacttcctt ttccaccaa 180
aaaaccctgc ttctactcat gcatcaaatt gtctgtgagc ctacatttt gtggccatgg 240
gacaagaaca ccatctttag ctgagctagg gaaaagtctt gca 283

<210> 45

<211> 245

<212> DNA

<213> Human endogenous retrovirus

<400> 45

gatgtgacca ctgtgaccta cctacactgg agatggctca cacttcctt cccttccct 60
gctgtaccaa taaataaacag cacagcctga cattcggagc cattaccggt ctttgact 120
tggtggttagt ggtatcccct agggcccagc tgtctttct tttatctctt tgtcttggt 180
ctttatattct atgagtcctc cgtctccgca catggggaga aaaaccata gaccctgttag 240
ggctg 245

<210> 46

<211> 181

<212> DNA

<213> Human endogenous retrovirus

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①
kt
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